

In the Claims:

1. (Previously presented) An integrated circuit having a power distribution network, the power distribution network comprising

- a power bus and
- a ground bus for supplying power from respective power and ground pads to a plurality of circuit elements on the integrated circuit, characterized in that

the power distribution network comprises a plurality of decoupling cells for providing a static current flow between the power pad and the ground pad, and wherein the power distribution network is configured such that, for any given circuit element on the integrated circuit, the combined distance between the power pad and said circuit element, and between the ground pad and said circuit element, is constant.

2. (Previously presented) An integrated circuit as claimed in claim 1, wherein the power distribution network is configured such that, as the distance of any given circuit element from the power pad increases, the distance from the ground pad decreases in a complementary manner.

3. (Previously presented) An integrated circuit as claimed in claim 1, wherein the power pad and the ground pad are arranged at diagonally opposite corners of the integrated circuit.

4. (Previously presented) An integrated circuit as claimed in claim 1, wherein the power distribution network comprises:

- a power bus comprising a vertical section connected to the power pad, and one or more horizontal sections connected to the vertical section;

- a ground bus comprising a vertical section connected to the ground pad and one or more horizontal sections connected to the vertical section;

wherein the vertical section of the power bus is arranged parallel to the vertical section of the ground bus, such that the one or more horizontal sections of the power bus interleave the one or more horizontal sections of the ground bus.

5. (Previously presented) An integrated circuit as claimed in claim 4, wherein a horizontal section of the power bus and a horizontal section of a ground bus form a row for powering one or more of the circuit elements.
6. (Previously presented) An integrated circuit as claimed in claim 5, wherein one or more circuit elements are located between the horizontal section of the power bus and the horizontal section of the ground bus.
7. (Previously presented) An integrated circuit as claimed in claim 1, wherein the decoupling cells (65) include decoupling capacitors.
8. (Original) An integrated circuit as claimed in claim 7, wherein the decoupling cells are configured to be the same height as the circuit elements.
9. (Original) An integrated circuit as claimed in claim 8, wherein the decoupling cells are arranged between circuit elements on the integrated circuit.
10. (Previously presented) An integrated circuit as claimed in claim 1, wherein the power distribution network comprises one or more smaller power distribution networks having the same configuration.
11. (New) An integrated circuit as claimed in claim 1, wherein the power distribution network maintains the voltage drop between the power pad and each circuit element constant.
12. (New) An integrated circuit as claimed in claim 1, wherein the decoupling cells maintain the voltage drop between the power pad and each circuit element constant.
13. (New) An integrated circuit as claimed in claim 1, wherein the decoupling cells selectively couple each of said given circuit elements to maintain combined distance constant.

14. (New) For supplying power to a plurality of circuit elements on an integrated circuit, a power distribution network comprising:

a power pad;

a ground pad;

a network of conductors to connect the power pad and the ground pad to each of the plurality of circuit elements; and

a plurality of decoupling cells adapted, for any given circuit element on the integrated circuit, to electrically connect the circuit element to both the power pad and the ground pad via the conductors and to maintain a constant combined distance between the power pad and the circuit element, and between the ground pad and the circuit element.

15. (New) The power distribution network of claim 14, wherein the decoupling cells maintain the constant combined distance for a circuit element by selectively connecting the conductors to the circuit element to decrease the distance between the circuit element and one of the power pad and the ground pad in a manner that is complementary to an increased distance between the circuit element and the other one of the power pad and the ground pad.

16. (New) The power distribution network of claim 14, wherein the decoupling cells maintain the constant combined distance for a circuit element by selectively connecting the conductors to the circuit element to increase the distance between the circuit element and one of the power pad and the ground pad in a manner that is complementary to a decreased distance between the circuit element and the other one of the power pad and the ground pad.

17. (New) The power distribution network of claim 14, wherein the decoupling cells maintain a static current between the power pad and the ground pad by selectively connecting the circuit elements via the conductors.